

Abstract

An apparatus selectively moving hydrogen ions in aqueous solution. Liquid water can form subcrystalline structure in a range of 5-20 molecules. The hydrogen ion can be among water molecules. Because the hydrogen ion acts as a hole in semiconductor and jumps forward in aqueous solutions, the hydrogen ion can be moved by a minimum electric field.

Since the major part of an organism is water, every organism can be considered as a container of aqueous solutions. The present invention provides the apparatus for selectively moving hydrogen ions in aqueous solution by low voltage and electrode with low impedance interface, thus for generating a specific electric current. To cope with the special requirements for measurement of electric signal and pH in vivo or reducing aqueous solution in viscosity, electrodes with special gel are disclosed in the apparatus. The apparatus can also be used in the heat therapy and deep acupuncture of tumor, since lactate may accumulate at regions of poor circulation and thus with a low pH. The medical apparatus manufactured accordingly has uses in tumor therapy, rehabilitation, weight loss, and so on.